

AMENDMENTS TO THE SPECIFICATION

On page 1, please delete the first paragraph under the title and insert in its place the following new paragraph.

This application is a U.S. National Phase Application of International Application No. PCT/US05/04714 filed on February 11, 2005 and asserts priority to U.S. Application Serial No. 10/845,057 filed on May 13, 2004, which is a continuing application of U.S. Application Serial Number 10/778,908 filed on February 13, 2004. The specifications of International Application No. PCT/US05/04714, U.S. Application Serial No. 10/845,057, and U.S. Application Serial Number 10/778,908 are hereby incorporated by reference in their entirety.

On pages 19-26, please delete Tables 1 through 4 and insert in its place the following new Tables 1 through 4:

Table 1: Human, Mouse and Rat microRNA and anti-microRNA sequences.

| microRNA name | microRNA sequence (5' to 3') | Anti-microRNA molecule sequence (5' to 3') |
|----------------|---|---|
| hsa-miR-100 | <u>SEQ ID NO. 1</u> AACCCGUAGAUCCGAACUUGUG | <u>SEQ ID NO.307</u> CACAAGUUCGGAUCUACGGGUU |
| hsa-miR-103 | <u>SEQ ID NO. 2</u> AGCAGCAUUGUACAGGGCUAUG | <u>SEQ ID NO.308</u> CAUAGCCCUGUACAAUGCUGCU |
| hsa-miR-105-5p | <u>SEQ ID NO. 3</u> UCAAAUGCUCAGACUCCUGUGG | <u>SEQ ID NO.309</u> CCACAGGAGUCUGAGCAUUUGA |
| hsa-miR-106a | <u>SEQ ID NO. 4</u> AAAAGUGCUIACAGUGCAGGUA | <u>SEQ ID NO.310</u> UACCUGCACUGUAAGCACUUUU |
| hsa-miR-106b | <u>SEQ ID NO. 5</u> UAAAGUGCUGACAGUGCAGUA | <u>SEQ ID NO.311</u> UAUCUGCACUGUCAGCACUUUA |
| hsa-miR-107 | <u>SEQ ID NO. 6</u> AGCAGCAUUGUACAGGGCUAUC | <u>SEQ ID NO.312</u> GAUAGCCCUGUACAAUGCUGCU |
| hsa-miR-10b | <u>SEQ ID NO. 7</u> UACCCUGUAGAACC GAUUUGU | <u>SEQ ID NO.313</u> ACAAAUUCGGUUCUACAGGGUA |
| hsa-miR-128b | <u>SEQ ID NO. 8</u> UCACAGUGAACCGGUCUCUUUC | <u>SEQ ID NO.314</u> GAAAGAGACCGGUUCACUGUGA |
| hsa-miR-130b | <u>SEQ ID NO. 9</u> CAGUGCAAUGAUGAAAGGGCAU | <u>SEQ ID NO.315</u> AUGCCCUUUAUCAUUGCACUG |
| hsa-miR-140-3p | <u>SEQ ID NO. 10</u> UACCACAGGGUAGAACCACGGA | <u>SEQ ID NO.316</u> UCCGUGGUUCUACCCUGUGGUA |
| hsa-miR-142-5p | <u>SEQ ID NO. 11</u> CCCAUAAAGUAGAAAGCACUAC | <u>SEQ ID NO.317</u> GUAGUGCUUUCUACUUUAUGGG |
| hsa-miR-151-5p | <u>SEQ ID NO. 12</u> UCGAGGAGCUCACAGUCUAGUA | <u>SEQ ID NO.318</u> UACUAGACUGUGAGCUCCUCGA |
| hsa-miR-155 | <u>SEQ ID NO. 13</u> UUAUUGCUAUUCGUGAUAGGGG | <u>SEQ ID NO.319</u> CCCCUAUCACGAUUAGCAUUA |
| hsa-miR-181a | <u>SEQ ID NO. 14</u> AACAUUCAACGCUGUCGGUGAG | <u>SEQ ID NO.320</u> CUCACCGACAGCGUUGAAUGUU |
| hsa-miR-181b | <u>SEQ ID NO. 15</u> AACAUUCAUUGCUGUCGGUGG | <u>SEQ ID NO.321</u> CCCACCGACAGCAUGAACUUGU |
| hsa-miR-181c | <u>SEQ ID NO. 16</u> AACAUUCAACCUGUCGGUGAGU | <u>SEQ ID NO.322</u> ACUCACCGACAGGUUGAAUGUU |
| hsa-miR-182 | <u>SEQ ID NO. 17</u> UUUGGCAAUGGUAGAACUCACA | <u>SEQ ID NO.323</u> UGUGAGUUCUACCAUUGCCAAA |
| hsa-miR-183 | <u>SEQ ID NO. 18</u> UAUGGCACUGGUAGAAUUCACU | <u>SEQ ID NO.324</u> AGUGAAUUCUACCAGUGCCAU |
| hsa-miR-184 | <u>SEQ ID NO. 19</u> UGGACGGAGAACUGAUAGGGU | <u>SEQ ID NO.325</u> ACCCUUAUCAGUUCUCCGUCCA |
| hsa-miR-185 | <u>SEQ ID NO. 20</u> UGGAGAGAAAGGCAGUCCUGA | <u>SEQ ID NO.326</u> UCAGGAACUGCCUUUCUCUCCA |
| hsa-miR-186 | <u>SEQ ID NO. 21</u> CAAAGAAUUCUCCUUUUGGGCU | <u>SEQ ID NO.327</u> AGCCCAAAAGGAGAAUUCUUUG |
| hsa-miR-187 | <u>SEQ ID NO. 22</u> UCGUGUCUUGUGUUGCAGCCGG | <u>SEQ ID NO.328</u> CCGGCUGCAACACAAGACACGA |
| hsa-miR-188-3p | <u>SEQ ID NO. 23</u> CUCCACAUGCAGGGUUUGCAG | <u>SEQ ID NO.329</u> CUGCAAACCCUGCAUGUGGGAG |
| hsa-miR-188-5p | <u>SEQ ID NO. 24</u> CAUCCCUUGCAUGGUGGAGGGU | <u>SEQ ID NO.330</u> ACCUCCACCAUGCAAGGGAG |
| hsa-miR-189 | <u>SEQ ID NO. 25</u> GUGCCUACUGAGCUGAUUACAG | <u>SEQ ID NO.331</u> CUGAAUACAGCUGAUGAAGCAC |
| hsa-miR-190 | <u>SEQ ID NO. 26</u> UGAUAUGUUUGAUUAUUAAGGU | <u>SEQ ID NO.332</u> ACCUAAUUAUCAAACAUAUCA |
| hsa-miR-191 | <u>SEQ ID NO. 27</u> CAACGGAAUCCCAAAGCAGCU | <u>SEQ ID NO.333</u> AGCUGCUUUUGGGAUCCGUUG |
| hsa-miR-192 | <u>SEQ ID NO. 28</u> CUGACCUAUGAAUUGACAGCCA | <u>SEQ ID NO.334</u> UGGCUGUCAAUUCAUAGGUCAG |
| hsa-miR-193-3p | <u>SEQ ID NO. 29</u> AACUGGCCUACAAAGUCCAGU | <u>SEQ ID NO.335</u> ACUGGGACUUUGUAGGCCAGUU |
| hsa-miR-193-5p | <u>SEQ ID NO. 30</u> UGGGUCUUUGCGGGCAAGAUGA | <u>SEQ ID NO.336</u> UCAUCUUGCCCGCAAAGACCCA |
| hsa-miR-194 | <u>SEQ ID NO. 31</u> UGUAACAGCAACUCCAUGUGGA | <u>SEQ ID NO.337</u> UCCACAUGGAGUUGCUGUUACA |
| hsa-miR-195 | <u>SEQ ID NO. 32</u> UAGCAGCACAGAAAUUUGGCA | <u>SEQ ID NO.338</u> UGCCAAUAUUUCUGUGCUGCUA |

| microRNA name | microRNA sequence (5' to 3') | Anti-microRNA molecule sequence (5' to 3') |
|-----------------|--|--|
| hsa-miR-196 | <u>SEQ ID NO. 33</u> UAGGUAGUUUCAUGUUGUUGGG | <u>SEQ ID NO.339</u> CCCAACAACAUGAAACUACCUA |
| hsa-miR-197 | <u>SEQ ID NO. 34</u> UUCACCACCUUCUCCACCCAGC | <u>SEQ ID NO.340</u> GCUGGGUGGAGAAGGUGGUGAA |
| hsa-miR-198 | <u>SEQ ID NO. 35</u> GUCCAGAGGGGAGAUAGGUUC | <u>SEQ ID NO.341</u> GAACCUAUCUCCCCUCUGGACC |
| hsa-miR-199a-3p | <u>SEQ ID NO. 36</u> ACAGUAGUCUGCACAUUGGUUA | <u>SEQ ID NO.342</u> UAACCAAUGUGCAGACUACUGU |
| hsa-miR-199a-5p | <u>SEQ ID NO. 37</u> CCCAGUGUUCAGACUACCUGUU | <u>SEQ ID NO.343</u> AACAGGUAGUCUGAACACUGGG |
| hsa-miR-199b | <u>SEQ ID NO. 38</u> CCCAGUGUUUAGACUAUCUGUU | <u>SEQ ID NO.344</u> AACAGAUAGUCUAAACACUGGG |
| hsa-miR-200a | <u>SEQ ID NO. 39</u> UAACACUGUCUGGUAACGAUGU | <u>SEQ ID NO.345</u> ACAUCGUUACCAGACAGUGUUA |
| hsa-miR-200b | <u>SEQ ID NO. 40</u> CUCUAAUACUGCCUGGUAUAUGA | <u>SEQ ID NO.346</u> UCAUUUACCAGGCAGUAUUAGAG |
| hsa-miR-200c | <u>SEQ ID NO. 41</u> AAUACUGCCGGUAAUAGUGGA | <u>SEQ ID NO.347</u> UCCAUCAUUACCCGGCAGUAUU |
| hsa-miR-203 | <u>SEQ ID NO. 42</u> GUGAAAUGUUUAGGACCACUAG | <u>SEQ ID NO.348</u> CUAGUGGUCCUAAACAUUUCAC |
| hsa-miR-204 | <u>SEQ ID NO. 43</u> UUCCCUUUGUCAUCCUAGCCU | <u>SEQ ID NO.349</u> AGGCAUAGGAUGACAAAGGGAA |
| hsa-miR-205 | <u>SEQ ID NO. 44</u> UCCUUCAUUCCACCGGAGUCUG | <u>SEQ ID NO.350</u> CAGACUCCGGUGGAAUGAAGGA |
| hsa-miR-206 | <u>SEQ ID NO. 45</u> UGGAAUGUAAGGAAGUGUGUGG | <u>SEQ ID NO.351</u> CCACACACUCCUUACAUIUCCA |
| hsa-miR-208 | <u>SEQ ID NO. 46</u> AUAAGACGAGCAAAAAGCUUGU | <u>SEQ ID NO.352</u> ACAAGCUUUUUGCUCGUCUUAU |
| hsa-miR-210 | <u>SEQ ID NO. 47</u> CUGUGCGUGUGACAGCGGCUGA | <u>SEQ ID NO.353</u> UCAGCCGCGUGUCACACGCACAG |
| hsa-miR-211 | <u>SEQ ID NO. 48</u> UUCCCUUUGUCAUCCUUCGCCU | <u>SEQ ID NO.354</u> AGGCGAAGGAUGACAAAGGGAA |
| hsa-miR-212 | <u>SEQ ID NO. 49</u> UAACAGUCUCCAGUCACGGCCA | <u>SEQ ID NO.355</u> UGGCCGUGACUGGAGACUGUUA |
| hsa-miR-213 | <u>SEQ ID NO. 50</u> ACCAUCGACCGUUGAUUGUACC | <u>SEQ ID NO.356</u> GGUACAAUCAACGGGUGAUGGU |
| hsa-miR-214 | <u>SEQ ID NO. 51</u> ACAGCAGGCACAGACAGGCAGU | <u>SEQ ID NO.357</u> ACUGCCUGUCUGUGCCUGCUGU |
| hsa-miR-215 | <u>SEQ ID NO. 52</u> AUGACCUAUGAAUUGACAGACA | <u>SEQ ID NO.358</u> UGUCUGUCAAUUCAUAGGUCAU |
| hsa-miR-216 | <u>SEQ ID NO. 53</u> UAAUCUCAGCUGGCAACUGUGA | <u>SEQ ID NO.359</u> UCACAGUUGCCAGCUGAGAUUA |
| hsa-miR-217 | <u>SEQ ID NO. 54</u> UACUGCAUCAGGAACUGAUUGG | <u>SEQ ID NO.360</u> CCAUUCAGUUCUGAUGCAGUA |
| hsa-miR-218 | <u>SEQ ID NO. 55</u> UUGUGCUUGAUCUAACCAUGUG | <u>SEQ ID NO.361</u> CACAUGGUUAGAUAAGCACAA |
| hsa-miR-219 | <u>SEQ ID NO. 56</u> UGAUUGUCCAAACGCAAUUCUU | <u>SEQ ID NO.362</u> AAGAAUUGCGUUUGGACAAUCA |
| hsa-miR-220 | <u>SEQ ID NO. 57</u> CCACACCGUAUCUGACACUUUG | <u>SEQ ID NO.363</u> CAAAGUGUCAGAUACGGUGUGG |
| hsa-miR-221 | <u>SEQ ID NO. 58</u> AGCUACAUUGUCUGCUGGGUUU | <u>SEQ ID NO.364</u> AAACCCAGCAGACAAUGUAGCU |
| hsa-miR-222 | <u>SEQ ID NO. 59</u> AGCUACAUCUGGCUACUGGGUC | <u>SEQ ID NO.365</u> GACCCAGUAGCCAGAUGUAGCU |
| hsa-miR-223 | <u>SEQ ID NO. 60</u> UGUCAGUUUGUCAAUACCCCA | <u>SEQ ID NO.366</u> UGGGGUAUUUGACAAACUGACA |
| hsa-miR-224 | <u>SEQ ID NO. 61</u> CAAGUCACUAGUGGUUCCGUUU | <u>SEQ ID NO.367</u> AAACGGAACCAUAGUAGUUG |
| hsa-miR-28-5p | <u>SEQ ID NO. 62</u> AAGGAGCUCACAGUCUAUUGAG | <u>SEQ ID NO.368</u> CUCAAUAGACUGUGAGCUCCUU |
| hsa-miR-290 | <u>SEQ ID NO. 63</u> CUCAAACUGUGGGGGCACUUUC | <u>SEQ ID NO.369</u> GAAAGUGCCCCCACAGUUUGAG |
| hsa-miR-296 | <u>SEQ ID NO. 64</u> AGGGCCCCCCCCUCAAUCCUGUU | <u>SEQ ID NO.370</u> AACAGGAUUGAGGGGGGGCCCU |
| hsa-miR-299 | <u>SEQ ID NO. 65</u> UGGUUUACCGUCCCAUAUACAU | <u>SEQ ID NO.371</u> AUGUAUGUGGGACGGUAAACCA |
| hsa-miR-301 | <u>SEQ ID NO. 66</u> CAGUGCAAUAGUAUUGUCAAAG | <u>SEQ ID NO.372</u> CUUUGACAAUACUAUUGCACUG |
| hsa-miR-302 | <u>SEQ ID NO. 67</u> UAAGUGCUUCCAUGUUUUGGUG | <u>SEQ ID NO.373</u> CACCAAAACAUGGAAGCACUUA |
| hsa-miR-30e | <u>SEQ ID NO. 68</u> UGUAAACAUCUUUGACUGGAAG | <u>SEQ ID NO.374</u> CUUCCAGUCAAGGAUGUUUACA |
| hsa-miR-320 | <u>SEQ ID NO. 69</u> AAAAGCUGGGUUGAGAGGGCGA | <u>SEQ ID NO.375</u> UCGCCUCUCAACCCAGCUUUU |
| hsa-miR-321 | <u>SEQ ID NO. 70</u> UAAGCCAGGGAUUGUGGGUUCG | <u>SEQ ID NO.376</u> CGAACCCACAAUCCUGGCCUUA |
| hsa-miR-322 | <u>SEQ ID NO. 71</u> AAACAUGAAUUGCUGCUGUAUC | <u>SEQ ID NO.377</u> GAUACAGCAGCAAUUGAGUUU |
| hsa-miR-323 | <u>SEQ ID NO. 72</u> GCACAUUACACGGUUGGACUUC | <u>SEQ ID NO.378</u> AGAGGUGACCCGUGUAAUGUGC |
| hsa-miR-324-3p | <u>SEQ ID NO. 73</u> CCACUGCCCCAGGUGCUGCUGG | <u>SEQ ID NO.379</u> CCAGCAGCACCUGGGGCAGUGG |
| hsa-miR-324-5p | <u>SEQ ID NO. 74</u> CGCAUCCCCUAGGGCAUUGGUG | <u>SEQ ID NO.380</u> CACCAUUGCCCUAGGGGAUGCG |
| hsa-miR-326 | <u>SEQ ID NO. 75</u> CCUCUGGGCCCCUCCUCCAGCC | <u>SEQ ID NO.381</u> GGCUGGAGGAAGGGCCAGAGG |
| hsa-miR-328 | <u>SEQ ID NO. 76</u> CUGGCCUCUCUGCCCUUCCGU | <u>SEQ ID NO.382</u> ACGGAAGGGCAGAGAGGGCCAG |
| hsa-miR-329 | <u>SEQ ID NO. 77</u> AACACACCCAGCUAACCUUUUU | <u>SEQ ID NO.383</u> AAAAAGGUUAGCUGGGUGUGUU |
| hsa-miR-34a | <u>SEQ ID NO. 78</u> UGGCAGUGUCUUAGCUGGUUGU | <u>SEQ ID NO.384</u> ACAACCAGCUAAGACACUGCCA |
| hsa-miR-34b | <u>SEQ ID NO. 79</u> AGGCAGUGUCAUAGCUGAUUG | <u>SEQ ID NO.385</u> CAUUCAGCUAAUGACACUGCCU |
| hsa-miR-34c | <u>SEQ ID NO. 80</u> AGGCAGUGUAGUUAGCUGAUUG | <u>SEQ ID NO.386</u> CAUUCAGCUAAUACACUGCCU |
| hsa-miR-92 | <u>SEQ ID NO. 81</u> UAUUGCACUUGUCCCGGCCUGU | <u>SEQ ID NO.387</u> ACAGGCCGGGACAAGUGCAAUA |
| hsa-miR-93 | <u>SEQ ID NO. 82</u> AAAGUGCUGUUCGUGAGGUAAG | <u>SEQ ID NO.388</u> CUACCUGCAGCAACAGCACUUU |
| hsa-miR-95 | <u>SEQ ID NO. 83</u> UUCAACGGGUAAUUUAUUGAGCA | <u>SEQ ID NO.389</u> UGCUCAAUAAAUAACCCGUUGAA |
| hsa-miR-96 | <u>SEQ ID NO. 84</u> UUUGGCACUAGCACAUUUUUGC | <u>SEQ ID NO.390</u> GCAAAAUGUGCUAGUGCCAAA |
| hsa-miR-98 | <u>SEQ ID NO. 85</u> UGAGGUAGUAAGUUGUAUUGUU | <u>SEQ ID NO.391</u> ACAAUAACAACUUAUACCUCA |
| mmu-miR-106a | <u>SEQ ID NO. 86</u> CAAAGUGCUAACAGUGCAGGUA | <u>SEQ ID NO.392</u> UACCUGCACUGUUAGCACUUUG |
| mmu-miR-10b | <u>SEQ ID NO. 87</u> CCCUGUAGAACCGAUUUUGUGU | <u>SEQ ID NO.393</u> ACACAAAUUCGGUUCUACAGGG |

| microRNA name | microRNA sequence (5' to 3') | Anti-microRNA molecule sequence (5' to 3') |
|----------------|--|---|
| mmu-miR-135b | SEQ ID NO. 88 UAUGGCUUUUCAUCCUAUGUG | SEQ ID NO.394 CACAUAGGAAUGAAAAGCCAU |
| mmu-miR-148b | SEQ ID NO. 89 UCAGUGCAUCACAGAACUUUGU | SEQ ID NO.395 ACAAGUUCUGUGAUGCACUGA |
| mmu-miR-151-3p | SEQ ID NO. 90 CUAGACUGAGGCUCCUUGAGGA | SEQ ID NO.396 UCCUCAAGGAGCCUCAGUCUAG |
| mmu-miR-155 | SEQ ID NO. 91 UUA AUGCUAAUUGUGAUAGGGG | SEQ ID NO.397 CCCCUAUCACAAUUAGCAUUA |
| mmu-miR-199b | SEQ ID NO. 92 CCCAGUGUUUAGACUACUGUU | SEQ ID NO.398 AACAGGUAGUCUAAACACUGGG |
| mmu-miR-200b | SEQ ID NO. 93 UAAUACUGCCUGGUAUUGAUGA | SEQ ID NO.399 UCAUCAUUACCAGGCAGUAUUA |
| mmu-miR-203 | SEQ ID NO. 94 UGAAAUGUUUAGGACCACUAGA | SEQ ID NO.400 UCUAGUGGUCCUAAACAUUUCA |
| mmu-miR-211 | SEQ ID NO. 95 UUCCCUUUGUCAUCCUUGCCU | SEQ ID NO.401 AGGCAAAGGAUGACAAAGGGAA |
| mmu-miR-217 | SEQ ID NO. 96 UACUGCAUCAGGAACUGACUGG | SEQ ID NO.402 CCAGUCAGUCCUGAUGCAGUA |
| mmu-miR-224 | SEQ ID NO. 97 UAAGUCACUAGUGGUUCCGUUU | SEQ ID NO.403 AAACGGAACCACUAGUGACUUA |
| mmu-miR-28-3p | SEQ ID NO. 98 CACUAGA UUGUGAGCUGCUGGA | SEQ ID NO.404 UCCAGCAGCUCACAAUCUAGUG |
| mmu-miR-290 | SEQ ID NO. 99 CUCAAACUAUGGGGGCACUUUU | SEQ ID NO.405 AAAAGUGCCCCCAUAGUUUGAG |
| mmu-miR-291-3p | SEQ ID NO. 100 AAAGUGCUUCCACUUUGUGUGC | SEQ ID NO.406 GCACACAAAGUGGAAGCACUUU |
| mmu-miR-291-5p | SEQ ID NO. 101 CAUCAAAGUGGAGGCCUCUCU | SEQ ID NO.407 AGAGAGGGCCUCCACUUUGAUG |
| mmu-miR-292-3p | SEQ ID NO. 102 AAGUGCCGCCAGGUUUUGAGUG | SEQ ID NO.408 CACUCAAACCUGGCGGCACUU |
| mmu-miR-292-5p | SEQ ID NO. 103 ACUCAAACUGGGGGCUCUUUG | SEQ ID NO.409 CAAAAGAGCCCCCAGUUUGAGU |
| mmu-miR-293 | SEQ ID NO. 104 AGUGCCGCAGAGUUUGUAGUGU | SEQ ID NO.410 ACACUACAAACUCUGCGGCACU |
| mmu-miR-294 | SEQ ID NO. 105 AAAGUGCUUCCCUUUUGUGUGU | SEQ ID NO.411 ACACACAAAAGGGAAGCACUUU |
| mmu-miR-295 | SEQ ID NO. 106 AAAGUGCUUCCCUUUUGUGUGU | SEQ ID NO.412 GACUCAAAAAGUAGUAGCACUUU |
| mmu-miR-297 | SEQ ID NO. 107 AUGUAUGUGUGCAUGUGCAUGU | SEQ ID NO.413 ACAUGCACAUGCACACAUACAU |
| mmu-miR-298 | SEQ ID NO. 108 GGCAGAGGAGGGCUGUUCUCC | SEQ ID NO.414 GGAAGAACAGCCUCCUCUGCC |
| mmu-miR-300 | SEQ ID NO. 109 UAUGCAAGGGCAAGCUCUCUUC | SEQ ID NO.415 GAAGAGAGCUUGCCCUUGCAUA |
| mmu-miR-31 | SEQ ID NO. 110 AGGCAAGAUGCUGGCAUAGCUG | SEQ ID NO.416 CAGCUAUGCCAGCAUCUUGCCU |
| mmu-miR-322 | SEQ ID NO. 111 AAACAUGAAGCGCUGCAACACC | SEQ ID NO.417 GGUGUUGCAGCGCUUCAUGUUU |
| mmu-miR-325 | SEQ ID NO. 112 CCUAGUAGGUGCUCAGUAAGUG | SEQ ID NO.418 CACUUACUGAGCACCUCUAGG |
| mmu-miR-326 | SEQ ID NO. 113 CCUCUGGGCCCUUCCUCCAGUC | SEQ ID NO.419 GACUGGAGGAAGGGCCAGAGG |
| mmu-miR-330 | SEQ ID NO. 114 GCAAAGCAGAGGGCCUGCAGAG | SEQ ID NO.420 CUCUGCAGGCCCUGUGCUUUUG |
| mmu-miR-331 | SEQ ID NO. 115 GCCCCUGGGCCUAUCCUAGAAC | SEQ ID NO.421 GUUCUAGGAUAGGCCAGGGGC |
| mmu-miR-337 | SEQ ID NO. 116 UUCAGCUCCUAUAGUAGCCUU | SEQ ID NO.422 AAGGCAUCAUAUAGGAGCUGAA |
| mmu-miR-338 | SEQ ID NO. 117 UCCAGCAUCAGUGAUUUUGUUG | SEQ ID NO.423 CAACAAAAUCACUGAUGCUGGA |
| mmu-miR-339 | SEQ ID NO. 118 UCCUGUCCUCCAGGAGCUCAC | SEQ ID NO.424 GUGAGCUCCUGGAGGACAGGGA |
| mmu-miR-340 | SEQ ID NO. 119 UCCGUCUCAGUUACUUUAUAGC | SEQ ID NO.425 GCUAUAAGUAACUGAGACGGA |
| mmu-miR-341 | SEQ ID NO. 120 UCGAUCGGUCGGUCGGUCAGUC | SEQ ID NO.426 GACUGACCGACCGACCGAUCGA |
| mmu-miR-342 | SEQ ID NO. 121 UCUCACACAGAAAUCGCACCCG | SEQ ID NO.427 CGGGUGCGAUUUCUGUGUGAGA |
| mmu-miR-344 | SEQ ID NO. 122 UGAUCUAGCCAAAGCCUGACUG | SEQ ID NO.428 CAGUCAGGCUUUGGCUAGAUA |
| mmu-miR-345 | SEQ ID NO. 123 UGCUGACCCCUAGUCCAGUGCU | SEQ ID NO.429 AGCACUGGACUAGGGGUCAGCA |
| mmu-miR-346 | SEQ ID NO. 124 UGUCUGCCCCGAGUGCCUGCCUC | SEQ ID NO.430 GAGGCAGGCACUCGGGCAGACA |
| mmu-miR-34b | SEQ ID NO. 125 UAGGCAGUGUAUUAGCUGAUU | SEQ ID NO.431 AAUCAGCUAAUACACUGCCUA |
| mmu-miR-350 | SEQ ID NO. 126 UUCACAAAGGCCAUACACUUUC | SEQ ID NO.432 GAAAGUGUAUGGGCUUUGUGAA |
| mmu-miR-351 | SEQ ID NO. 127 UCCUGAGGAGCCCUUUGAGCC | SEQ ID NO.433 GGCUCAAAGGGCUCCUCAGGGA |
| mmu-miR-7b | SEQ ID NO. 128 UGGAAGACUUGUGAUUUUGUUG | SEQ ID NO.434 CAACAAAAUCACAAGUCUUCCA |
| mmu-miR-92 | SEQ ID NO. 129 UAUUGCACUUGUCCCGGCCUGA | SEQ ID NO.435 UCAGGCCGGGACAAGUGCAAUA |
| mmu-miR-93 | SEQ ID NO. 130 CAAAGUGCUGUUCGUGCAGGUA | SEQ ID NO.436 UACCUGCACGAACAGCACUUUG |
| rno-miR-327 | SEQ ID NO. 131 CCUUGAGGGGCAUGAGGGUAGU | SEQ ID NO.437 ACUACCCUCAUGCCCCUCAAGG |
| rno-miR-333 | SEQ ID NO. 132 GUGGUGUGCUAGUUACUUUUGG | SEQ ID NO.438 CCAAAGUAACUAGCACACCAC |
| rno-miR-335 | SEQ ID NO. 133 UCAAGAGCAAUAACGAAAAAUG | SEQ ID NO.439 CAUUUUUCGUUAUUGCUCUUGA |
| rno-miR-336 | SEQ ID NO. 134 UCACCCUCCAUAUCUAGUCUC | SEQ ID NO.440 GAGACUAGAUUGGAAGGGUGA |
| rno-miR-343 | SEQ ID NO. 135 UCUCUCCUGGUGUGCCAGUAU | SEQ ID NO.441 AUACUGGGCACACGAGGGGAGA |
| rno-miR-347 | SEQ ID NO. 136 UGUCCUCUGGUGCGCCAGCU | SEQ ID NO.442 AGCUGGGCGACCCAGGGGACA |
| rno-miR-349 | SEQ ID NO. 137 CAGCCUGCUGUCUUAACCUCU | SEQ ID NO.443 AGAGGUUAAGACAGCAGGGCUG |
| rno-miR-352 | SEQ ID NO. 138 AGAGUAGUAGGUUGCAUAGUAC | SEQ ID NO.444 GUACUAUGCAACCUACUACUCU |

Table 2: Novel Human microRNA and anti-microRNA sequences.

| microRNA name | microRNA sequence (5' to 3') | Anti-microRNA molecule sequence (5' to 3') |
|---------------|---|--|
| hsa-miR-361 | <u>SEQ ID NO. 139</u> UUAUCAGAAUCUCCAGGGGUAC | <u>SEQ ID NO.445</u> GUACCCCUUGGAGAUUCUGAUAA |
| hsa-miR-362 | <u>SEQ ID NO. 140</u> AAUCCUUGGAACCUAGGUGUGA | <u>SEQ ID NO.446</u> UCACACCUAGGUUCCAAGGAUU |
| hsa-miR-363 | <u>SEQ ID NO. 141</u> AUUGCACGGUAUCCAUCUGUAA | <u>SEQ ID NO.447</u> UUACAGAUUGGAUACCGUGCAAU |
| hsa-miR-364 | <u>SEQ ID NO. 142</u> CGGCGGGGACGGCGAUUGGUCC | <u>SEQ ID NO.448</u> GGACCAAUCGCCGUCCCCGCCG |
| hsa-miR-365 | <u>SEQ ID NO. 143</u> UAAUGCCCCUAAAAAUCCUUAU | <u>SEQ ID NO.449</u> AUAAGGAUUUUUAGGGGCAUUA |
| hsa-miR-366 | <u>SEQ ID NO. 144</u> UAACUGGUUGAACAAACUGAACC | <u>SEQ ID NO.450</u> GGUUCAGUUGUUAACCAAGUUA |

Table 3: C. elegans microRNA and anti-microRNA sequences.

| microRNA name | microRNA sequence (5' to 3') | Anti-microRNA molecule sequence (5' to 3') |
|---------------|--|--|
| Cel-let-7 | SEQ ID NO. 145 UGAGGUAGUAGGUUGUAUAGUU | SEQ ID NO.451 AACUAUACAACCUACUACCUCA |
| Cel-lin-4 | SEQ ID NO. 146 UCCCUGAGACCUCAAGUGUGAG | SEQ ID NO.452 CUCACACUUGAGGUCUCAGGGA |
| Cel-miR-1 | SEQ ID NO. 147 UGGAAUGUAAAGAAGUAUGUAG | SEQ ID NO.453 CUACAUACUUCUUUACAUIUCCA |
| Cel-miR-2 | SEQ ID NO. 148 UAUCACAGCCAGCUUUGAUGUG | SEQ ID NO.454 CACAUCAAAGCUGGCUGUGAUA |
| Cel-miR-34 | SEQ ID NO. 149 AGGCAGUGUGGUUAGCUGGUUG | SEQ ID NO.455 CAACCAGCUAACCACACUGCCU |
| Cel-miR-35 | SEQ ID NO. 150 UCACCGGGUGGAAACUAGCAGU | SEQ ID NO.456 ACUGCUAGUUUCCACCCGGUGA |
| Cel-miR-36 | SEQ ID NO. 151 UCACCGGGUGAAAAUUCGCAUG | SEQ ID NO.457 CAUGCGAAUUUUCACCCGGUGA |
| Cel-miR-37 | SEQ ID NO. 152 UCACCGGGUGAACACUUGCAGU | SEQ ID NO.458 ACUGCAAGUGUUCACCCGGUGA |
| Cel-miR-38 | SEQ ID NO. 153 UCACCGGGAGAAAAACUGGAGU | SEQ ID NO.459 ACUCCAGUUUUUCUCCCGGUGA |
| Cel-miR-39 | SEQ ID NO. 154 UCACCGGGUGUAAAUCAGCUUG | SEQ ID NO.460 CAAGCUGAUUUACACCCGGUGA |
| Cel-miR-40 | SEQ ID NO. 155 UCACCGGGUGUACAUCAGCUAA | SEQ ID NO.461 UUAGCUGAUGUACACCCGGUGA |
| Cel-miR-41 | SEQ ID NO. 156 UCACCGGGUGAAAAUACCCUA | SEQ ID NO.462 UAGGUGAUUUUUUACACCCGGUGA |
| Cel-miR-42 | SEQ ID NO. 157 CACCGGGUUAACAUCUACAGAG | SEQ ID NO.463 CUCUGUAGAUGUUAACCCGGUG |
| Cel-miR-43 | SEQ ID NO. 158 UAUCACAGUUUACUUGCUGUCG | SEQ ID NO.464 CGACAGCAAGUAAACUGUGAUA |
| Cel-miR-44 | SEQ ID NO. 159 UGACUAGAGACACAUCAGCUU | SEQ ID NO.465 AAGCUGAAUGUGUCUCUAGUCA |
| Cel-miR-45 | SEQ ID NO. 160 UGACUAGAGACACAUCAGCUU | SEQ ID NO.466 AAGCUGAAUGUGUCUCUAGUCA |
| Cel-miR-46 | SEQ ID NO. 161 UGUCAUGGAGUCGUCUCUUA | SEQ ID NO.467 UGAAGAGAGCGACUCCAUGACA |
| Cel-miR-47 | SEQ ID NO. 162 UGUCAUGGAGGCGCUCUCUUA | SEQ ID NO.468 UGAAGAGAGCGCCUCCAUGACA |
| Cel-miR-48 | SEQ ID NO. 163 UGAGGUAGGCUCAGUAGAUGCG | SEQ ID NO.469 CGCAUCUACUGAGCCUACCUCA |
| Cel-miR-49 | SEQ ID NO. 164 AAGCACCACGAGAAGCUGCAGA | SEQ ID NO.470 UCUGCAGCUUCUCGUGGUGCUU |
| Cel-miR-50 | SEQ ID NO. 165 UGAUAUGUCUGGUUAUUCUUGG | SEQ ID NO.471 CCCAAGAAUACCAGACAUAUCA |
| Cel-miR-51 | SEQ ID NO. 166 UACCCGUAGCUCCUAUCCAUGU | SEQ ID NO.472 ACAUGGAUAGGAGCUACGGGUA |
| Cel-miR-52 | SEQ ID NO. 167 CACCCGUACAUAUGUUUCCGUG | SEQ ID NO.473 CACGGAAACAUAUGUACGGGUG |
| Cel-miR-53 | SEQ ID NO. 168 CACCCGUACAUAUGUUUCCGUG | SEQ ID NO.474 CACGGAAACAAUUGUACGGGUG |
| Cel-miR-54 | SEQ ID NO. 169 UACCCGUAAUCUUAUAAUCCG | SEQ ID NO.475 CGGAUUAUGAAGAUUACGGGUA |
| Cel-miR-55 | SEQ ID NO. 170 UACCCGUAAUAGUUUCCGUGA | SEQ ID NO.476 UCAGCAGAAACUUAUACGGGUA |
| Cel-miR-56 | SEQ ID NO. 171 UACCCGUAAUAGUUUCCGUGA | SEQ ID NO.477 CUCAGCGGAAACAUAUACGGGUA |
| Cel-miR-57 | SEQ ID NO. 172 UACCCUGUAGAUCGAGCUGUGU | SEQ ID NO.478 ACACAGCUCGAUCUACAGGGUA |
| Cel-miR-58 | SEQ ID NO. 173 UGAGAUCGUUCAGUACGGCAAU | SEQ ID NO.479 AUUGCCGUACUGAACGAUCUCA |
| Cel-miR-59 | SEQ ID NO. 174 UCGAAUCGUUUAUCAGGAUGAU | SEQ ID NO.480 AUCAUCCUGAUAAACGAUUCGA |
| Cel-miR-60 | SEQ ID NO. 175 UAUAUAGCACAUAUUUCUAGUUC | SEQ ID NO.481 GAACUAGAAAAUGUGCAUAAUA |
| Cel-miR-61 | SEQ ID NO. 176 UGACUAGAACCGUUAUCUAUCU | SEQ ID NO.482 AGAUGAGUAACGGUUCUAGUCA |
| Cel-miR-62 | SEQ ID NO. 177 UGAUAUGUAAUCUAGCUUACAG | SEQ ID NO.483 CUGUAAGCUAGAUAUACAUAUCA |
| Cel-miR-63 | SEQ ID NO. 178 AUGACACUGAAGCGAGUUGGAA | SEQ ID NO.484 UUCAACUCGCUUCAGUGUCAU |
| Cel-miR-64 | SEQ ID NO. 179 UAUGACACUGAAGCGUUAACCGA | SEQ ID NO.485 UCGGUAACGCUUCAGUGUCAUA |
| Cel-miR-65 | SEQ ID NO. 180 UAUGACACUGAAGCGUUAACCGA | SEQ ID NO.486 UCGGUUACGCUUCAGUGUCAUA |
| Cel-miR-66 | SEQ ID NO. 181 CAUGACACUGAUUAGGGUUGUG | SEQ ID NO.487 CACAUCCCUAAUCAGUGUCAUG |
| Cel-miR-67 | SEQ ID NO. 182 UCACAACCUCUAGAAAGAGUA | SEQ ID NO.488 UACUCUUUCUAGGAGGUUGUGA |
| Cel-miR-68 | SEQ ID NO. 183 UCGAAGACUCAAAGUGUAGAC | SEQ ID NO.489 GUCUACACUUUUGAGUCUUCGA |
| Cel-miR-69 | SEQ ID NO. 184 UCGAAAAUUAUAAAGUGUAGAA | SEQ ID NO.490 UUCUACACUUUUUAAUUAUUCGA |
| Cel-miR-70 | SEQ ID NO. 185 UAAUACGUCGUUGGUGUUUCCA | SEQ ID NO.491 UGGAACACCAACGACGUAUUA |
| Cel-miR-71 | SEQ ID NO. 186 UGAAAGACAUGGGUAGUGAACG | SEQ ID NO.492 CGUUCACUACCCAUGUCUUUCA |
| Cel-miR-72 | SEQ ID NO. 187 AGGCAAGAUGUUGGCAUAGCUG | SEQ ID NO.493 CAGCUAUGCCAACAUCUUGCCU |
| Cel-miR-73 | SEQ ID NO. 188 UGGCAAGAUGUAGGCAGUUCAG | SEQ ID NO.494 CUGAACUGCCUACAUCUUGCCA |
| Cel-miR-74 | SEQ ID NO. 189 UGGCAAGAAUUGGCAGUCUACA | SEQ ID NO.495 UGUAGACUGCCAUUUUCUUGCCA |
| Cel-miR-75 | SEQ ID NO. 190 UUAAGCUACCAACCGGCUUCA | SEQ ID NO.496 UGAAGCCGUUGGUAGCUUUAA |
| Cel-miR-76 | SEQ ID NO. 191 UUCGUUGUUGAUGAAGCCUUGA | SEQ ID NO.497 UCAAGGCUUCAUCAAACGAA |
| Cel-miR-77 | SEQ ID NO. 192 UUCAUCAGGCCAUAGCUGUCCA | SEQ ID NO.498 UGGACAGCUAUGGCCUGAUGAA |
| Cel-miR-78 | SEQ ID NO. 193 UGGAGGCCUGGUUGUUUGUGCU | SEQ ID NO.499 AGCACAACAACAGGCCUCCA |
| Cel-miR-79 | SEQ ID NO. 194 AUAAAGCUAGGUUACCAAAGCU | SEQ ID NO.500 AGCUUUGGUAACCUAGCUUUUAU |
| Cel-miR-227 | SEQ ID NO. 195 AGCUUUCGACAUGAUUCUGAAC | SEQ ID NO.501 GUUCAGAAUCAUGUCGAAAGCU |
| Cel-miR-80 | SEQ ID NO. 196 UGAGAUCAUUAGUUGAAAGCCG | SEQ ID NO.502 CGGCUUUCAAACUAAUGAUCUCA |
| Cel-miR-81 | SEQ ID NO. 197 UGAGAUCAUUCGUGAAAGCUAGU | SEQ ID NO.503 ACUAGCUUUCACGAUGAUCUCA |

| microRNA name | microRNA sequence (5' to 3') | Anti-microRNA molecule sequence (5' to 3') |
|---------------|---|--|
| Cel-miR-82 | <u>SEQ ID NO. 198</u> UGAGAUCAUUCGUGAAAGCCAGU | <u>SEQ ID NO.504</u> ACUGGCUUUCACGAUGAUCUCA |
| Cel-miR-83 | <u>SEQ ID NO. 199</u> UAGCACCAUAUAAAUUCAGUAA | <u>SEQ ID NO.505</u> UUACUGAAUUUAUAUGGUGCUA |
| Cel-miR-84 | <u>SEQ ID NO. 200</u> UGAGGUAGUAUGUAAUUAUGUA | <u>SEQ ID NO.506</u> UACAAUAUUACAUACUACCUCA |
| Cel-miR-85 | <u>SEQ ID NO. 201</u> UACAAAGUAUUUGAAAAGUCGU | <u>SEQ ID NO.507</u> ACGACUUUUCAAAUAUUUGUA |
| Cel-miR-86 | <u>SEQ ID NO. 202</u> UAAGUGAAUGCUUUGCCACAGU | <u>SEQ ID NO.508</u> ACUGUGGCAAAGCAUUCACUUA |
| Cel-miR-87 | <u>SEQ ID NO. 203</u> GUGAGCAAAGUUUCAGGUGUGC | <u>SEQ ID NO.509</u> GCACACCUGAAACUUUGCUCAC |
| Cel-miR-90 | <u>SEQ ID NO. 204</u> UGAUAUGUUGUUUGAAUGCCCC | <u>SEQ ID NO.510</u> GGGGCAUUCAAACAACAUUAUCA |
| Cel-miR-124 | <u>SEQ ID NO. 205</u> UAAGGCACGCGGUGAAUGCCAC | <u>SEQ ID NO.511</u> GUGGCAUUCACCGCGUGCCUUA |
| Cel-miR-228 | <u>SEQ ID NO. 206</u> AAUGGCACUGCAUGAAUUCACG | <u>SEQ ID NO.512</u> CGUGAAUUCAUUGCAGUGCCAUU |
| Cel-miR-229 | <u>SEQ ID NO. 207</u> AAUGACACUGGUUAUCUUUCC | <u>SEQ ID NO.513</u> GGAAAAGAUAAACCAGUGUCAUU |
| Cel-miR-230 | <u>SEQ ID NO. 208</u> GUAAUAGUUGUGCGACCAGGAG | <u>SEQ ID NO.514</u> CUCCUGGUCGCACAACUAAUAC |
| Cel-miR-231 | <u>SEQ ID NO. 209</u> UAAGCUCGUGAUC AACAGGCAG | <u>SEQ ID NO.515</u> CUGCCUGUUGAUCACGAGCUUA |
| Cel-miR-232 | <u>SEQ ID NO. 210</u> UAAAUGCAUCUUAACUGCGGUG | <u>SEQ ID NO.516</u> CACCGCAGUUAAGAUGCAUUUA |
| Cel-miR-233 | <u>SEQ ID NO. 211</u> UUGAGCAAUGCGCAUGUGCGGG | <u>SEQ ID NO.517</u> CCCGCACAUGCGCAUUGCUCAA |
| Cel-miR-234 | <u>SEQ ID NO. 212</u> UUAUUGCUCGAGAAUACCCUUU | <u>SEQ ID NO.518</u> AAAGGGUAUUCUCGAGCAAUAA |
| Cel-miR-235 | <u>SEQ ID NO. 213</u> UAUUGCACUCUCCCCGGCCUGA | <u>SEQ ID NO.519</u> UCAGGCCGGGGAGAGUGCAAUA |
| Cel-miR-236 | <u>SEQ ID NO. 214</u> UAAUACUGUCAGGUAAUGACGC | <u>SEQ ID NO.520</u> GCGUCAUUAACUGACAGUAUUA |
| Cel-miR-237 | <u>SEQ ID NO. 215</u> UCCUGAGAAUUCUCGAACAGC | <u>SEQ ID NO.521</u> GCUGUUCGAGAAUUCUCAGGGA |
| Cel-miR-238 | <u>SEQ ID NO. 216</u> UUUGUACUCCGAUGCCAUUCAG | <u>SEQ ID NO.522</u> CUGAAUGGCAUCGGAGUACAAA |
| Cel-miR-239a | <u>SEQ ID NO. 217</u> UUUGUACUACACAUAGGUACUG | <u>SEQ ID NO.523</u> CAGUACCUUUGUGUAGUACAAA |
| Cel-miR-239b | <u>SEQ ID NO. 218</u> UUUGUACUACACAAAAGUACUG | <u>SEQ ID NO.524</u> CAGUACUUUUGUGUAGUACAAA |
| Cel-miR-240 | <u>SEQ ID NO. 219</u> UACUGGCCCCCAAUUCUUCGCU | <u>SEQ ID NO.525</u> AGCGAAGAUUUGGGGGCCAGUA |
| Cel-miR-241 | <u>SEQ ID NO. 220</u> UGAGGUAGGUGCGAGAAAUGAC | <u>SEQ ID NO.526</u> GUCAUUUCUCGCACCUACCUCA |
| Cel-miR-242 | <u>SEQ ID NO. 221</u> UUGCGUAGGCCUUUGCUUCGAG | <u>SEQ ID NO.527</u> CUCGAAGCAAAGGCCUACGCAA |
| Cel-miR-243 | <u>SEQ ID NO. 222</u> CGGUACGAUCGCGGCGGGAUUA | <u>SEQ ID NO.528</u> AUAUCCCCGCCGCGAUCGUACCG |
| Cel-miR-244 | <u>SEQ ID NO. 223</u> UCUUUGGUUGUACAAAGUGGUA | <u>SEQ ID NO.529</u> UACCACUUUGUACAACCAAAGA |
| Cel-miR-245 | <u>SEQ ID NO. 224</u> AUUGGUCCCCUCCAAGUAGCUC | <u>SEQ ID NO.530</u> GAGCUACUUGGAGGGGACCAAU |
| Cel-miR-246 | <u>SEQ ID NO. 225</u> UUCAUGUUUCGGGUAGGAGCU | <u>SEQ ID NO.531</u> AGCUCCUACCCGAAACAUGUAA |
| Cel-miR-247 | <u>SEQ ID NO. 226</u> UGACUAGGCUUAUUCUCUCU | <u>SEQ ID NO.532</u> AGAAGAGAAUAGGCUUAGUCA |
| Cel-miR-248 | <u>SEQ ID NO. 227</u> UACACGUGCAGCGAAUACGCUC | <u>SEQ ID NO.533</u> GAGCGUUAUCCGUGCAGGUGUA |
| Cel-miR-249 | <u>SEQ ID NO. 228</u> UCACAGGACUUUUGAGCGUUGC | <u>SEQ ID NO.534</u> GCAACGCUCAAAAGUCCUGUGA |
| Cel-miR-250 | <u>SEQ ID NO. 229</u> UCACAGUCAACUGUUGGCAUGG | <u>SEQ ID NO.535</u> CCAUGCCAACAGUUGACUGUGA |
| Cel-miR-251 | <u>SEQ ID NO. 230</u> UUAAGUAGUGGUGCCGCUCUUA | <u>SEQ ID NO.536</u> UAAGAGCGGCACCACUACUUA |
| Cel-miR-252 | <u>SEQ ID NO. 231</u> UAAGUAGUAGUGCCGCAGGUAA | <u>SEQ ID NO.537</u> UUACCUGCGGCACUACUACUUA |
| Cel-miR-253 | <u>SEQ ID NO. 232</u> CACACCUCACU AACACUGACCA | <u>SEQ ID NO.538</u> UGGUCAGUGUUAGUGAGGUGUG |
| Cel-miR-254 | <u>SEQ ID NO. 233</u> UGCAAUUCUUUCGCGACUGUAG | <u>SEQ ID NO.539</u> CUACAGUCGCGAAAGAUUUGCA |
| Cel-miR-256 | <u>SEQ ID NO. 234</u> UGGAAUGCAUAGAAGACUGUAC | <u>SEQ ID NO.540</u> GUACAGUCUUCU AUGCAUUCUA |
| Cel-miR-257 | <u>SEQ ID NO. 235</u> GAGUAUCAGGAGUACCCAGUGA | <u>SEQ ID NO.541</u> UCACUGGGUACUCCUGAUACUC |
| Cel-miR-258 | <u>SEQ ID NO. 236</u> GGUUUUGAGAGGAAUCCUUUA | <u>SEQ ID NO.542</u> UAAAAGGAUUCUUCUAAAACC |
| Cel-miR-259 | <u>SEQ ID NO. 237</u> AGUAAAUCUCAUCCUAAUCUGG | <u>SEQ ID NO.543</u> CCAGAUUAGGAUGAGAUUUACU |
| Cel-miR-260 | <u>SEQ ID NO. 238</u> GUGAUGUCGAACUCUUGUAGGA | <u>SEQ ID NO.544</u> UCCUACAAGAGUUCGACAUCAC |
| Cel-miR-261 | <u>SEQ ID NO. 239</u> UAGCUUUUAGUUUUCACGGUG | <u>SEQ ID NO.545</u> CACCGUGAAAACUAAAAAGCUA |
| Cel-miR-262 | <u>SEQ ID NO. 240</u> GUUUCUCGAUGUUUUCUGAUAC | <u>SEQ ID NO.546</u> GUUUCAGAAAACUUCGAGAAAC |
| Cel-miR-264 | <u>SEQ ID NO. 241</u> GGCGGGUGGUUGUUGUUAUGGG | <u>SEQ ID NO.547</u> CCCAUACAACAACCAACCCGCC |
| Cel-miR-265 | <u>SEQ ID NO. 242</u> UGAGGGAGGAAGGGUGGUUUU | <u>SEQ ID NO.548</u> AAUUAACCCCUUCCUCCCUCA |
| Cel-miR-266 | <u>SEQ ID NO. 243</u> AGGCAAGACUUUGGCAAAGCUU | <u>SEQ ID NO.549</u> AAGCUUUGCCAAAGUCUUGCCU |
| Cel-miR-267 | <u>SEQ ID NO. 244</u> CCCGUGAAGUGUCUGCUGCAAU | <u>SEQ ID NO.550</u> AUUGCAGCAGACAUUCACGGG |
| Cel-miR-268 | <u>SEQ ID NO. 245</u> GGCAAGAAUUAAGAAGCAGUUUG | <u>SEQ ID NO.551</u> CAAACUGCUUCUAAUUCUUGCC |
| Cel-miR-269 | <u>SEQ ID NO. 246</u> GGCAAGACUCUGGCAAAACUUG | <u>SEQ ID NO.552</u> CAAGUUUUGCCAGAGUCUUGCC |
| Cel-miR-270 | <u>SEQ ID NO. 247</u> GGCAUGAUGUAGCAGUGGAGAU | <u>SEQ ID NO.553</u> AUCUCCACUGCUACAUCUAGCC |
| Cel-miR-271 | <u>SEQ ID NO. 248</u> UCGCCGGUGGGAAAGCAUUCG | <u>SEQ ID NO.554</u> CGAAUGCUUUCACCCCGGCGA |
| Cel-miR-272 | <u>SEQ ID NO. 249</u> UGUAGGCAUGGGUGUUUGGAAG | <u>SEQ ID NO.555</u> CUUCCAAACACCCAUGCCUACA |
| Cel-miR-273 | <u>SEQ ID NO. 250</u> UGCCCCGUACUGUGUCGGCUGCU | <u>SEQ ID NO.556</u> AGCAGCCGACACAGUACGGGCA |

Table 4: Drosophila microRNA and anti-microRNA sequences.

| microRNA name | microRNA sequence (5' to 3') | Anti-microRNA molecule sequence (5' to 3') | * |
|---------------|--|--|---|
| Dme-miR-263a | SEQ ID NO. 251 GUUAAUGGCACUGGAAGAAUUC | SEQ ID NO.557 GAAUUCUCCAGUGCCAUAUAC | |
| Dme-miR-184 | SEQ ID NO. 252 UGGACGGAGAACUGAUAGGGC | SEQ ID NO.558 GCCCUUAUCAGUUCUCCGUCCA | |
| Dme-miR-274 | SEQ ID NO. 253 UUUUGUGACCGACACUAACGGG | SEQ ID NO.559 CCCGUUAGUGUCGGUCACAAAA | |
| Dme-miR-275 | SEQ ID NO. 254 UCAGGUACCUGAAGUAGCGCGC | SEQ ID NO.560 GCGCGCUACUUCAGGUACCUGA | |
| Dme-miR-92a | SEQ ID NO. 255 CAUUGCACUUGUCCCGGCCUUAU | SEQ ID NO.561 AUAGGCCGGGACAAGUGCAAUG | |
| Dme-miR-219 | SEQ ID NO. 256 UGAUUGUCCAAACGCAAUUCU | SEQ ID NO.562 AAGAAUUGCGUUUGGACAAUCA | |
| Dme-miR-276a | SEQ ID NO. 257 UAGGAACUUAUACCGUGCUCU | SEQ ID NO.563 AGAGCACGGUAUGAAGUCCUA | |
| Dme-miR-277 | SEQ ID NO. 258 UAAAUAGCACUAUCUGGUACGAC | SEQ ID NO.564 GUCGUACCAGAUAGUGCAUUA | |
| Dme-miR-278 | SEQ ID NO. 259 UCGGUGGGACUUCGUCUCCGUU | SEQ ID NO.565 AAACGGACGAAAGUCCACCGA | |
| Dme-miR-133 | SEQ ID NO. 260 UUGGUCCCCUUAACACGCGU | SEQ ID NO.566 ACAGCUGGUUGAAGGGGACCAA | |
| Dme-miR-279 | SEQ ID NO. 261 UGACUAGAUCACACUCAUUA | SEQ ID NO.567 UUAUAGAGUGUGGAUCUAGUCA | |
| Dme-miR-33 | SEQ ID NO. 262 AGGUGCAUUGUAGUCGCAUUGU | SEQ ID NO.568 ACAUUGCGACUACAAUGCACC | |
| Dme-miR-280 | SEQ ID NO. 263 UGUUUUUACGUUGCAUAUGAAA | SEQ ID NO.569 UUUCAUAUGCAACGUAAAUA | |
| Dme-miR-281 | SEQ ID NO. 264 UGUCAUGGAAUUGCUCUCUUG | SEQ ID NO.570 CAAAGAGAGCAAUUCUUGACA | |
| Dme-miR-282 | SEQ ID NO. 265 AAUCUAGCCUCUACUAGGCUU | SEQ ID NO.571 AAAGCCUAGUAGAGGCUAGAU | |
| Dme-miR-283 | SEQ ID NO. 266 UAAAUUACAGCUGGUAAUUCUG | SEQ ID NO.572 CAGAAUACCAGCUGAUUUUA | |
| Dme-miR-284 | SEQ ID NO. 267 UGAAGUCAGCAACUUGAUUCCA | SEQ ID NO.573 UGGAUUAAGUUGCUGACUUA | |
| Dme-miR-34 | SEQ ID NO. 268 UGGCAGUGUGGUUAGCUGGUUG | SEQ ID NO.574 CAACACGUAACACACAGUCCA | |
| Dme-miR-124 | SEQ ID NO. 269 UAAGGCACGCGGUGAAUGCCAA | SEQ ID NO.575 UUGGCAUUCACCGCGUGCCUUA | |
| Dme-miR-79 | SEQ ID NO. 270 UAAAGCUAGAUUACCAAAGCAU | SEQ ID NO.576 AUGCUUUGGUAAUUCUAGCUUA | |
| Dme-miR-276b | SEQ ID NO. 271 UAGGAACUAAUACCGUGCUCU | SEQ ID NO.577 AGAGCACGGUAUUAAGUCCUA | |
| Dme-miR-210 | SEQ ID NO. 272 UUGUGCGUGUGACAGCGGCUAU | SEQ ID NO.578 AUAGCCGUGUCACACGCACAA | |
| Dme-miR-285 | SEQ ID NO. 273 UAGCACCAUUCGAAUUCAGUGC | SEQ ID NO.579 GCACUGAUUUCGAAUGGUGCUA | |
| Dme-miR-100 | SEQ ID NO. 274 AACCCGUAAAUCCGAACUUGUG | SEQ ID NO.580 CACAAGUUCGGAUUUACGGGUU | |
| Dme-miR-92b | SEQ ID NO. 275 AAUUGCACUAGUCCCGGCCUGC | SEQ ID NO.581 GCAGGCCGGGACUAGUGCAAUU | |
| Dme-miR-286 | SEQ ID NO. 276 UGACUAGACCGAACACUCGUGC | SEQ ID NO.582 GCACGAGUGUUCGGUCUAGUCA | |
| Dme-miR-287 | SEQ ID NO. 277 UGUGUUGAAAAUUCGUUUGCAGC | SEQ ID NO.583 CGUGCAAACGAUUUUAACACA | |
| Dme-miR-87 | SEQ ID NO. 278 UUGAGCAAAUUCAGGUGUGU | SEQ ID NO.584 ACACACGUAUUUUGCUCAA | |
| Dme-miR-263b | SEQ ID NO. 279 CUUGGCACUGGGAGAAUUCACA | SEQ ID NO.585 UGUGAAUUCUCCAGUGCCAAG | |
| Dme-miR-288 | SEQ ID NO. 280 UUUCAUGUCGAUUUCAUUUCAU | SEQ ID NO.586 AUGAAAUGAAAUCGACAUGAAA | |
| Dme-miR-289 | SEQ ID NO. 281 UAAAUUUUAAGUGGAGCCUGC | SEQ ID NO.587 GCAGGCCUCCACUAAAUUAUUUA | |
| Dme-bantam | SEQ ID NO. 282 UGAGAUCAUUUUUGAAAGCUGAU | SEQ ID NO.588 AUCAGCUUUCAAAAUGAUCUCA | |
| Dme-miR-303 | SEQ ID NO. 283 UUUAGGUUUCACAGGAAACUGG | SEQ ID NO.589 CCAGUUUCCUGUGAAACCUGAA | |
| Dme-miR-31b | SEQ ID NO. 284 UGGCAAGAUGUCGGAUAGCUG | SEQ ID NO.590 CAGCUAUUCCGACAUCUUGCCA | |
| Dme-miR-304 | SEQ ID NO. 285 UAAUCUCAAUUUGUAAAUGUGA | SEQ ID NO.591 UCACAUUUACAAAUUGAGAUUA | |
| Dme-miR-305 | SEQ ID NO. 286 AUUGUACUUCUACAGGUGCUCU | SEQ ID NO.592 AGAGCACCUGAUGAAGUACAAU | |
| Dme-miR-9c | SEQ ID NO. 287 UCUUUGGUUUUCUAGCUGUAGA | SEQ ID NO.593 UCUACAGCUAGAAUACCAAAGA | |
| Dme-miR-306 | SEQ ID NO. 288 UCAGGUACUUAGUGACUCUCAA | SEQ ID NO.594 UUGAGAGUGACUAAAGUACUGA | |
| Dme-miR-9b | SEQ ID NO. 289 UCUUUGGUGAUUUUAGCUGUAU | SEQ ID NO.595 AUACAGCUAAAAUCACCAAAGA | |
| Dme-miR-125 | SEQ ID NO. 290 UCCCUGAGACCCUAAACUUGUGA | SEQ ID NO.596 UCACAAGUUAGGGUCUCAGGGA | |
| Dme-miR-307 | SEQ ID NO. 291 UCACAACCUCCUUGAGUGAGCG | SEQ ID NO.597 CGCUCACUCAAGGAGGUUGUGA | |
| Dme-miR-308 | SEQ ID NO. 292 AAUCACAGGAUUUAUCUGUGAG | SEQ ID NO.598 CUCACAGUAUAAUCCUGUGAUU | |
| dme-miR-31a | SEQ ID NO. 293 UGGCAAGAUGUCGGCAUAGCUG | SEQ ID NO.599 CAGCUAUGCCGACAUCUUGCCA | |
| dme-miR-309 | SEQ ID NO. 294 GCACUGGGUAAAGUUUGUCCUA | SEQ ID NO.600 UAGGACAAACUUUACCCAGUGC | |
| dme-miR-310 | SEQ ID NO. 295 UAUUGCACACUCCCGGCCUUU | SEQ ID NO.601 AAAGGCCGGGAAGUGUGCAAUA | |
| dme-miR-311 | SEQ ID NO. 296 UAUUGCACAUUCACCGGCCUGA | SEQ ID NO.602 UCAGGCCGGUGAAUGUGCAAUA | |
| dme-miR-312 | SEQ ID NO. 297 UAUUGCACUUGAGACGGCCUGA | SEQ ID NO.603 UCAGGCCGUCUCAAAGUGCAAUA | |
| dme-miR-313 | SEQ ID NO. 298 UAUUGCACUUUACACAGCCCGA | SEQ ID NO.604 UCGGGCUGUGAAAAGUGCAAUA | |
| dme-miR-314 | SEQ ID NO. 299 UAUUCGAGCCAAUAAGUUCGG | SEQ ID NO.605 CCGAACUUUAUUGGCUCGAAUA | |
| dme-miR-315 | SEQ ID NO. 300 UUUUGAUUGUUGCUCAGAAAGC | SEQ ID NO.606 GCUUUCUGAGCAACAAUCAAUA | |
| dme-miR-316 | SEQ ID NO. 301 UGUCUUUUUCCGCUUACUGGCG | SEQ ID NO.607 CGCCAGUAAGCGGAAAAAGACA | |
| dme-miR-317 | SEQ ID NO. 302 UGAACACAGCUGGUGGUUAUCCA | SEQ ID NO.608 UGGAUACCACCAGCUGUGUUA | |
| dme-miR-318 | SEQ ID NO. 303 UCACUGGGCUUUGUUUAUCUCA | SEQ ID NO.609 UGAGAUAAACAAAGCCAGUGA | |
| dme-miR-2c | SEQ ID NO. 304 UAUCACAGCCAGCUUGAUGGG | SEQ ID NO.610 CCAUCAAAAGCUGGCUGUGAUA | |

| microRNA name | microRNA sequence (5' to 3') | Anti-microRNA molecule sequence (5' to 3') |
|----------------|--|---|
| Dme-miR-iab45p | <u>SEQ ID NO. 305</u> ACGUAUACUGAAUGUAUCCUGA | <u>SEQ ID NO.611</u> UCAGGAUACAUUCAGUAUACGU |
| Dme-miR-iab43p | <u>SEQ ID NO. 306</u> CGGUAUACCUUCAGUAUACGUA | <u>SEQ ID NO.612</u> UACGUAUACUGAAGGUAUACCG |

On page 27, please delete the first full paragraph and insert in its place the following new paragraph:

The sequences of the 2'-O-methyl oligoribonucleotides were 5'-GUCAACAUCAGUCUGAUAAAGCUAL (L, 3' aminolinker) for 2'-OMe miR-21 (SEQ ID NO. 613), and 5'-AAGGCAAGCUGACCCUGAAGUL for EGFP 2'-OMe antisense (SEQ ID NO. 614), 5'-UGAAGUCCCAGUCGAACGGAAL for EGFP 2'-OMe reverse (SEQ ID NO. 615); the sequence of chimeric 2'-OMe/DNA oligonucleotides was 5'-GTCAACATCAGTCTGATAAGCTAGCGL for 2'-deoxy miR-21 (underlined, 2'-OMe residues) (SEQ ID NO. 616), and 5'-AAGGCAAGCTGACCCTGAAGTGCCGL for EGFP 2'-deoxy antisense (SEQ ID NO. 617).

On page 27, please delete the second full paragraph and insert in its place the following new paragraph:

The miR-21 cleavage substrate was prepared by PCR-based extension of the partially complementary synthetic DNA oligonucleotides 5'-GAACAATTGCTTTTACAGATGCACATATCGAGGTGAACATCACGTACGTCAACATCAGTCTGATAAGCTATCGGTTGGCAGAAGCTAT (SEQ ID NO. 618) and 5'-GGCATAAAGAATTGAAGAGAGTTTTCACTGCATACGACGATTCTGTGATTTGTATTTCAGCCCATATCGTTTCATAGCTTCTGCCAACCGA (SEQ ID NO. 619). The extended dsDNA was then used as template for a new PCR with primers 5'-TAATACGACTCACTATAGAACAATTGCTTTTACAG (SEQ ID NO. 620) and 5'-ATTTAGGTGACACTATAGGCATAAAGAATTGAAGA (SEQ ID NO. 621) to introduce the T7 and SP6 promoter sequences for in vitro transcription. The PCR product was ligated into pCR2.1-TOPO (Invitrogen). Plasmids isolated from sequence-verified clones were used as templates for PCR to produce sufficient template for run-off in vitro transcription reactions using phage RNA polymerases (Elbashir et al., EMBO 20, 6877-6888 (2001)). ³²P-Cap-labelling was performed as reported (Martinez et al., Cell 110, 563-574 (2002)).

On page 27, please delete the paragraph bridging page 27 and 28 and insert in its place the following new paragraph:

Plasmids pEGFP-S-21 and pEGFP-A-21 were generated by T4 DNA ligation of preannealed oligodeoxynucleotides 5'-GGCCTCAACATCAGTCTGATAAGCTAGGTACCT (SEQ ID NO. 622) and 5'-GGCCAGGTACCTAGCTTATCAGACTGATGTTGA (SEQ ID NO. 623) into NotI digested pEGFP-N-1 (Clontech). The plasmid pHcRed-C1 was from Clontech.